layer having large magneto-resistance is provided in a vicinity of an axial center of said rotary disc so as to extend from an outer circumferential portion of said rotary disc toward said rotating shaft, and a bottom portion of said deep groove is located to be closer to said rotating shaft than inside magnetic pole teeth of said electromagnetic stators.--

(2) Claim 2, lines 2 to 6 (end), change "said deep groove is formed all over an outer circumference of said rotary disc, while an inner diameter of said deep groove is smaller than an inner diameter of each of inside magnetic pole teeth of said electromagnetic stators." into --said deep groove is formed all over the outer circumference of said rotary disc.--

(3) Claim 3, lines 1 to 5 (end), change "according to Claim 1, characterized in that each of said through holes has a slit shape extending from said outer circumferential portion of said rotary disc to an outer circumferential portion of said rotating shaft." into --in which a rotary disc made of a magnetic material is fixedly attached to a rotating shaft, while a pair of electromagnetic stators in each of which a ring-like electromagnetic coil for generating magnetomotive force is inserted into a coil slot are fixed to casings respectively so as to be located on opposite sides of said rotary disc with suitable very small

distances, and on the basis of an output signal of a displacement sensor for measuring axial displacement of said rotating shaft, magnetic attraction force is made to act between said rotary disc and each of said electromagnetic stators so as to bear said rotating shaft in a target position distant from said electromagnetic stators and in non-contact therewith, said thrust magnetic bearing apparatus being characterized in that fan-shaped through holes for forming an air layer having large magneto-resistance are provided in a vicinity of an axial center of said rotary disc so as to extend from an outer circumferential portion of said rotary disc to said rotating shaft, while walls of rotary disc pieces located on axially opposite sides of said through holes are formed as solid walls having no through hole axially.--

(4) Claim 4, lines 1 to 13 (end), change "according to any one of Claims 1 through 3, characterized in that a distance between a surface of said rotary disc located in a position not opposed to any one of an inside magnetic pole tooth and an outside magnetic pole tooth of corresponding one of said electromagnetic stators and a surface of said corresponding electromagnetic stator opposed to said surface of said rotary disc is formed to be larger than a distance between a surface of said rotary disc located in a position opposed to each of said inside

magnetic pole tooth and said outside magnetic pole tooth of said corresponding electromagnetic stator and a surface of said corresponding electromagnetic stator opposed to said surface of said rotary disc." into --in which a rotary disc made of a magnetic material is fixedly attached to a rotating shaft, while a pair of electromagnetic stators in each of which a ring-like electromagnetic coil for generating magnetomotive force is inserted into a coil slot are fixed to casings respectively so as to be located on opposite sides of said rotary disc with suitable very small distances, and on the basis of an output signal of a displacement sensor for measuring axial displacement of said rotating shaft, magnetic attraction force is made to act between said rotary disc and each of said electromagnetic stators so as to bear said rotating shaft in a target position distant from said electromagnetic stators and in non-contact therewith, said thrust magnetic bearing apparatus being characterized in that a distance between a surface of said rotary disc existing in a position not opposed to any one of an inside magnetic pole tooth and an outside magnetic pole tooth of corresponding one of said electromagnetic stators and a surface of said corresponding electromagnetic stator opposed to said surface of said rotary disc is formed to be larger than a distance between a surface of said rotary disc existing in a position opposed

to each of said inside magnetic pole tooth and said outside magnetic pole tooth of said corresponding electromagnetic stator and a surface of said corresponding electromagnetic stator opposed to said surface of said rotary disc.--

(5) Claim 5, lines 1 to 5 (end), change "according to any one of Claims 1 through 4, characterized in that slits large enough to increase radial magneto-resistance are provided at several places in outer circumferential portions of said electromagnetic stators." into --in which a rotary disc made of a magnetic material is fixedly attached to a rotating shaft, while a pair of electromagnetic stators in each of which a ring-like electromagnetic coil for generating magnetomotive force is inserted into a coil slot are fixed to casings respectively so as to be located on opposite sides of said rotary disc with suitable very small distances, and on the basis of an output signal of a displacement sensor for measuring axial displacement of said rotating shaft, magnetic attraction force is made to act between said rotary disc and each of said electromagnetic stators so as to bear said rotating shaft in a target position distant from said electromagnetic stators and in non-contact therewith, said thrust magnetic bearing apparatus being characterized in that slits large enough to increase radial magneto-resistance are provided at several places in outer circumferential portions of said electromagnetic

stators.--

(6) Claim 6, lines 1 to 7 (end), change "according to any one of Claims 1 through 5, characterized in that an outer circumferential groove for forming an air layer having large magneto-resistance is provided in a portion of each of said outside magnetic pole teeth of said electromagnetic stators not opposed to said rotary disc so as to extend axially from a side where said rotary disc is located." into --in which a rotary disc made of a magnetic material is fixedly attached to a rotating shaft, while a pair of electromagnetic stators in each of which a ring-like electromagnetic coil for generating magnetomotive force is inserted into a coil slot are fixed to casings respectively so as to be located on opposite sides of said rotary disc with suitable very small distances, and on the basis of an output signal of a displacement sensor for measuring axial displacement of said rotating shaft, magnetic attraction force is made to act between said rotary disc and each of said electromagnetic stators so as to bear said rotating shaft in a target position distant from said electromagnetic stators and in non-contact therewith, said thrust magnetic bearing apparatus being characterized in that outer circumferential grooves for forming an air layer having large magneto-resistance are provided respectively in portions of outside magnet pole teeth of said

electromagnetic stators not opposed to said rotary disc, so as to extend axially from a side where said rotary disc is located.--

(7) Claim 7, lines 1 to 10 (end), change "according to any one of Claims 1 through 6, characterized in that an outer diameter of each of said electromagnetic stators is formed to have substantially as large as an outer diameter of said rotary disc, and a ring made of a non-magnetic material having a radial thickness enough to form a layer with large magneto-resistance is interposed between an outer circumferential portion of each of said electromagnetic stators and an inner circumferential portion of corresponding one of said casings to which said electromagnetic stator is attached." into --in which a rotary disc made of a magnetic material is fixedly attached to a rotating shaft, while a pair of electromagnetic stators in each of which a ring-like electromagnetic coil for generating magnetomotive force is inserted into a coil slot are fixed to casings respectively so as to be located on opposite sides of said rotary disc with suitable very small distances, and on the basis of an output signal of a displacement sensor for measuring axial displacement of said rotating shaft, magnetic attraction force is made to act between said rotary disc and each of said electromagnetic stators so as to bear said rotating shaft in a target position

distant from said electromagnetic stators and in non-contact therewith, said thrust magnetic bearing apparatus being characterized in that an outer diameter of each of said electromagnetic stators is formed to be substantially as large as an outer diameter of said rotary disc, and a ring made of a non-magnetic material having a radial thickness large enough to form a layer with large magneto-resistance is interposed between an outer circumferential portion of each of said electromagnetic stators and an inner circumferential portion of corresponding one of said casings to which said electromagnetic stator is attached.--

(8) Claim 8, lines 1 to 5 (end), change "according to any one of Claims 1 through 7, characterized in that a collar made of a non-magnetic material for relatively positioning where said pair of electromagnetic stators are attached is provided between said pair of electromagnetic stators." into --in which a rotary disc made of a magnetic material is fixedly attached to a rotating shaft, while a pair of electromagnetic stators in each of which a ring-like electromagnetic coil for generating magnetomotive force is inserted into a coil slot are fixed to casings respectively so as to be located on opposite sides of said rotary disc with suitable very small distances, and on the basis of an output signal of a displacement sensor for

measuring axial displacement of said rotating shaft, magnetic attraction force is made to act between said rotary disc and each of said electromagnetic stators so as to bear said rotating shaft in a target position distant from said electromagnetic stators and in non-contact therewith, said thrust magnetic bearing apparatus being characterized in that a collar made of a non-magnetic material for relatively positioning attachment of said pair of electromagnetic stators is provided between said pair of electromagnetic stators.--

(9) Description, page 10, lines 6 to 19, change "a deep groove ... shaft. Further, according to ... stators. Further, according to ... shaft." into --a deep groove for forming an air layer having large magneto-resistance is provided in a vicinity of an axial center of the rotary disc so as to extend from an outer circumferential portion of the rotary disc toward the rotating shaft, and a bottom portion of the deep groove is located to be closer to the above-mentioned rotating shaft than inside magnetic pole teeth of the above-mentioned electromagnetic stators. In addition, according to the present invention, the above-mentioned deep groove is formed all over the outer circumference of the above-mentioned rotary disc. In addition, according to the present invention, fan-shaped through holes for forming an air layer having large

magneto-resistance are provided in the vicinity of an axial center of the above-mentioned rotary disc so as to extend from an outer circumferential portion of the above-mentioned rotary disc to the above-mentioned rotating shaft, while walls of rotary disc pieces located on axially opposite sides of this through holes are formed as solid walls having no through hole axially.--

(10) Description, page 12, line 13; page 13, line 1 and line 20; page 14, line 17; page 37, line 16; page 38, line 16; page 39, line 13; delete "more".

(11) Description, page 18, line 18; after "… the inside magnetic pole teeth 11.", add --That is, the deep groove 16 is located so that the bottom portion thereof is closer to the rotating shaft 1 than the inside magnetic pole teeth 11 of the electromagnetic stators 7a and 7b.--

(12) Description, page 20, line 7; change " slit-like" into --fan-shaped slit-like--

(13) Description, page 35, lines 1 to 19 (end); change "The present invention … the intended objects." into --For example, in Mode 2, not always by through holes, but by a deep groove which is deeper than the inner diameter of the inside magnetic pole teeth 11 of the electromagnetic stators 7 and which does not reach the outer circumferential portion of the rotating shaft 1, it is also possible to attain the intended objects.--

6. List of Attached Papers

(1) Pages 23, 23/1, 24, and 24/1 in Claims.

(2) Pages 6, 6/1, 7, 8, 11, 11/1, 12, 20, 21 and 22 in Description.